Reading by Numbers

You need: a calculator (optional)

Palindromes are words or phrases that read the same backwards as forwards. Mum, Dad, and "a Toyota" are good examples. A well-known example of a longer palindrome is "a man, a plan, a canal, Panama".

Palindromic numbers are numbers that read the same backwards as forwards, such as 22, 353, and 49 194.

You can create a palindromic number by reversing the digits in a number and adding this new number to the original number. Sometimes it can take several steps to get a palindromic number.

$13 + 31 = 44$

A one-step palindrome

$37 + 73 = 110$

$110 + 011 = 121$

A two-step palindrome

$59 + 95 = 154$

$154 + 451 = 605$

$605 + 506 = 1\ 111$

A three-step palindrome

1. a. Create some palindromic numbers of your own.
    b. Can you make palindromic numbers from decimal numbers?

2. What happens if you start with a 3-digit number?

3. If you really want a challenge, try starting with 89. It's rather long!

Investigating palindromic numbers